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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,403	12/14/2001	Frederick W. Giacobbe	S5560	1566
7590 03/19/2004 LINDA RUSSELL AIR LIQUIDE CORPORATION 2700 POST OAK BLVD. SUITE 1800 HOUSTON, TX 77056			EXAMINER LAU, TUNG S	
			ART UNIT 2863	PAPER NUMBER

DATE MAILED: 03/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/017,403

Applicant(s)

GIACOBBE ET AL.

Examiner

Tung S Lau

Art Unit

2863

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 12-14 and 18-21 is/are rejected.
- 7) ☒ Claim(s) 6-11, 15-17 and 22-26 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 19 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Boroson et al. (U.S. patent 6,226,890).

Regarding claims 19 and 20:

Boroson discloses an apparatus for measuring and predicting moisture absorption rate in materials, the apparatus comprising: a substantially air-tight container adapted for placing a test specimen therein (abstract); means for establishing controlled atmospheric conditions in said container; and means for monitoring said atmospheric conditions within said container (Col. 3-4, Lines 49-34); The apparatus further including: means for circulating said atmosphere within said container (Col. 3-4, Lines 49-34).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

a. Claims 1, 18, 3, 4, 13, 14, 2, 5, 12, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boroson et al. (U.S. Patent 6,226,890) in view of Shigeta et al. (U.S. Patent 5,078,909).

Regarding claims 1, 18, 3, 4, 13, 14, 2, 5, 12, 21,:

Boroson discloses A method of predicting moisture absorption rate in PEM materials, the method comprising the steps of: drying a PEM (abstract) hygroscopic material for a time sufficient to remove residual moisture (Col. 3-4, Lines 49-8); weighing said hygroscopic material (Col. 4, Lines 9-33); placing said hygroscopic material within a substantially air tight chamber having a controllable atmosphere (Col. 4, Lines 9-33); exposing the hygroscopic material to an environment of known controlled relative humidity in an inert gaseous atmosphere and controlled temperature (Col. 4, Lines 34-54); X is humidification time in hours (Col. 3-4, Lines 49-8) ; finding said constants a and b at said known controlled relative humidity and said controlled temperature for said hygroscopic material, assuming constant b is a constant value for the material (Col. 4, Lines 34-54), the material is a PEM (abstract).

Boroson does not disclose a constant a is a variable that is directly proportional to the relative humidity in an inert gaseous atmosphere; and modifying the

variable a and holding the variable b constant to generate an expected moisture absorption mass gain versus time curve for a different specific relative humidity value, collecting data of moisture absorption over time and using a curve fitting technique to fit the data to a curve using the equation $Y = AX^b$, and the relative humidity is 5 to 100%, a wetted fibrous material within the chamber.

Shigeta discloses a constant a is a variable that is directly proportional to the relative humidity in an inert gaseous atmosphere (Col. 1, Lines 6-11); and modifying the variable a and holding the variable b constant to generate an expected moisture absorption mass gain versus time curve for a different specific relative humidity value (fig.4,7), collecting data of moisture absorption over time and using a curve fitting technique to fit the data to a curve using the equation $Y = AX^b$ (fig. 5, 6), relative humidity is 5 to 100% (fig. 4, 12), a wetted fibrous material within the chamber (fig. 11), in order to have the moisture calculation absorbent material to protect precision instrument and parts (Col. 12, Lines 6-11).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Boroson to have a constant a is a variable that is directly proportional to the relative humidity in an inert gaseous atmosphere; and modifying the variable a and holding the variable b constant to generate an expected moisture absorption mass gain versus time curve for a different specific relative humidity value, collecting data of moisture absorption over time and

using a curve fitting technique to fit the data to a curve using the equation $Y = AX^b$. taught by Shigeta in order to have the moisture calculation absorbent material to protect precision instrument and parts (Col. 12, Lines 6-11).

As regards to the constant use by the applicant for equation $Y = AX^b$, Shigeta uses different constant to display his formula in fig.2-12, although the constant is not the same as the applicant (where: a is a constant ranging from about 0.001 to about 1.0; b is a constant ranging from about 0.01 to about 10.0; Y is the mass increase in grams H₂O per 100 grams of material), but the fundamental idea application and structure are the same (calculating moisture absorbent agent using $Y = AX^b$), just scaling factor is different. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Boroson to have the different constant taught by Shigeta in order to apply to a specific application and situation.

Claim Objections

3. Claims 6, 7, 8, 9, 10, 11, 16, 15, 17, 22-26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all the limitation of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance: prior art fail to teach a fan positioned within the chamber, a probe positioned within the chamber

for recording atmospheric conditions, chamber is controlled by gas injected into the chamber.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

4. Applicant's arguments filed 12/29/2003 have been fully considered but they are not persuasive.

A. Regarding to claims 19 and 20, applicant argues that the prior art does not show the 'measuring and predicting moisture absorption rate in material', Boroson discloses 'measuring and predicting moisture absorption rate in material' in Boroson et al. (U.S. patent 6,226,890) abstract.

In response to applicant's argument that the references fail to show certain features of applicant's invention (claims 19, 20), it is noted that the features upon which applicant relies (i.e., the formula $Y = AX^b$) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

B. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

C. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, both over Boroson and Shigeta are in the knowledge generally available to one of ordinary skill in the art (i.e. moisture absorbent material).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed

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within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung S Lau whose telephone number is 703-305-3309.

The examiner can normally be reached on M-F 9-5:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 703-308-3126. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-5841 for regular communications and 703-308-5841 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

TC2800 RightFAX Telephone Numbers : TC2800 Official Before-Final RightFAX - (703) 872-9318, TC2800 Official After-Final RightFAX - (703) 872-9319

TC2800 Customer Service RightFAX - (703) 872-9317

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